



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/007,293	11/10/2001	Phillip Kreider	50001.2069	5313
27045	7590	09/02/2005	EXAMINER	
ERICSSON INC. 6300 LEGACY DRIVE M/S EVR C11 PLANO, TX 75024			LIOU, JONATHAN	
			ART UNIT	PAPER NUMBER
			2663-	

DATE MAILED: 09/02/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.		Applicant(s)	
	10/007,293		KREIDER ET AL.	
	Examiner		Art Unit	
	Jonathan Liou		2663	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 10 November 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 10 November 2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Drawings

1. The drawings are objected to because Fig. 1 and Fig. 3 should be presented in the formal format for one who has ordinary skill in the art to understand the invention. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 1-9, and 11-20 are rejected under 35 U.S.C. 102(e) as being anticipated by U.S. Pat. No. 6,771,655 to O'Loughlin et al.

4. As per claim 1, O'Loughlin et al. teach that in a data communications system, a method of interleaving data into a single interface from a plurality of channels (**Fig. 2 and Fig. 3**) supporting a plurality of data rates (**col 7, lines 1-26 and col 14, lines 1-63.**)

O'Loughlin et al. teach the method comprising the steps of:

Polling each channel in the data communications system to determine if the channels are active (**O'Loughlin et al. teach polling the each data channel depending on the channel status of a logical channel, which would determine if a data is valid. See col 20-22, lines 59-45 and col 36-37, lines 55-17.**) the polling order determined according to a state machine, the state machine comprising at least one state for each data rate supported by the plurality of channels (**O'Loughlin et al. teach the processing to obtain channel status of a logical channel associated with the currently polled local memory entity. See col 33-34, lines 55-6. They further teach the processing unit could be state machine. See col 33, lines 36-54, and each channel status could be interpreted as the states to represent the**

different transport protocol, which might be DS3, DS1, T1, T3, E1, or E3 as disclosed throughout the reference of O'Loughlin et al.)

Interleaving data from the active channels into the single interface according the state of the state machine (O'Loughlin et al. teach determining if the data is valid. If the data is valid, they are interleaved together. See col 27, lines 19-54. This could perform on the different rates of the channels, which could be interpreted as the different states of the state machine. See col 14, lines 1-63.)

5. As per claim 2, O'Loughlin et al. teaches the method comprising the step of changing the data rate of at least one of the plurality of channels (O'Loughlin et al. teach high speed channel to low speed channel or vice versa (Fig. 3-4))

6. As per claim 3, O'Loughlin et al. teach the state machine comprises at least four states (O'Loughlin et al. teach the multiplexing of data links may continue in a hierarchy manner to further increase the data bandwidth capabilities of data transport system; hence, the rate could keep increase as well. See col 9-10, lines 49-2. As taught in the claim rejection 1 above, the different rates could be the different states; therefore, the method of O'Loughlin et al. could have at least four states.)

7. As per claim 4, O'Loughlin et al. teach the step of buffering data (col 5, lines 57.)

8. As per claims 5-6, O'Loughlin et al. teach the step of enabling/disabling one or more channels (the switching equipment would activate one logical channel and disable other logical channels (col 2, lines 50-51.))

9. As per claim 7, O'Loughlin et al. teach the data channels comprise dissimilar physical layers (**O'Loughlin et al. teach the channel could have a different data transport protocol, hence, the channels could have a different dissimilar physical layers (col 15, lines 39-57.)**)

10. As per claim 8, O'Loughlin et al. teach the data communications network comprises a synchronous optical network (SONET) (**col 14, lines 49-63.**)

11. As per claim 10, O'Loughlin et al. teach the processing module (**114, Fig. 3**) is a state machine, the memory is embed into the logic circuitry of the state machine to perform the function of circuit (**120-124, Fig. 3, and col 10, lines 17-22**). The processing module 114 perform a reconfigurable transmit mechanism, and the sequential circuit could also be seen in Fig. 1-3. Then, the same basis and rationale for claim rejection as applied to claim 1 above are applied to the remainder of claim 10.

12. As per claim 11, O'Loughlin et al. teach means for configuring the data channels for different data rates (**col14, lines 1-63**)

13. As per claim 12, O'Loughlin et al. teach means for buffering the data prior to interleaving (**col 5, lines 46-67.**)

14. As per claim 13-14, the same basis and rationale for claim rejection as applied to claim 5-6, 8, and 10 are applied.

15. As per claim 15, O'Loughlin et al. teach routing circuit supporting the interleaving of data from a plurality of data channels having dissimilar data rates (**O'Loughlin et al. teach the multiplexers to having routing circuit supporting the interleaving of data. See col 15-16, lines 58-34. They also teach the number of logical channels**

could change the rate of transporting. See col 14, lines 1-63, and col 15, lines 53-57.)

O'Loughlin et al. teach the method comprising means for:

a) Identifying one or more first active data channels from among a plurality of channels of a first data rate. (O'Loughlin et al. teach the logical channel is identified by the different channel segments (col 12-13, lines 63-22.), which could be interpreted as active data channels, and Fig. 7 shows this could be done from among a plurality of channels of a first data rate.)

b) Inviting the one or more first active channels to send data at a first data rate. (O'Loughlin et al. teach sending the identified logical channel in the first data rate. See col 13, 22-44.)

c) Identifying one or more first active data channels from among a plurality of channels of a next data rate.

d) Inviting the one or more first active channels to send data at a next data rate.

(O'Loughlin et al. also teach the limitations c) and d) because they teach that channel segments could be changed for different logical channel in order to provide the different data rate. Hence, different logical channel could be sent in the different rate. (col 14, lines 1-63.) Fig. 7 shows different logical channels; thus, the same basis and rationale for a) and b) above in claim rejection 14 of the office action are applied.)

16. As per claim 16-17, O'Loughlin et al. teach the routing circuit according to claim 15 further adapted for the iteration of for three, five, or more dissimilar data rates.

(O'Loughlin et al. teach the transportation rate could be 128 or 256 to 672 data per switch, and they also teach ultra-high speed links may be used. The ultra-high speed links could include a plurality of different data rates. See col 14, lines 1-63.)

17. As per claim 18, the same basis and rationale for claim rejection as applied to claims 11, and 15 above are applied.

18. As per claims 19, the same basis and rationale for claim rejection as applied to claims 8, and 15 above are applied.

19. As per claims 20, the same basis and rationale for claim rejection as applied to claims 5-6, and 15 above are applied.

Claim Rejections - 35 USC § 103

20. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

21. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Pat. No. 6,771,655 to O'Loughlin et al.

22. As per claim 9, O'Loughlin et al. teaches the plurality of data rates comprise digital signal level zero (DS0), DS1, and DS3 (O'Loughlin teaches DS0, DS1, and DS3 in the reference (col 7-8, lines 1-29)) He does not specifically teach to use DS2. Nevertheless, DS 2 is just a combination of 4 DS1s. Since O'Loughlin teaches the low/high speed converter (Fig. 2-3 and col 9-10, lines 5-2.), it would have been obvious to one having ordinary skill in the art at the time the invention was made to having a

Art Unit: 2672

data rates of DS2 in O'Loughlin et al.'s system because this would provide the advantage of having more bandwidth capabilities of the data transport system to meet the customer's requesting transmission rate. Moreover, O'Loughlin et al. do teach low/high speed converter (Fig. 2-3 and col 9-10, lines 5-2.) to convert the different data rates.

Conclusion

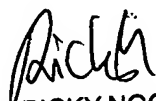
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jonathan Liou whose telephone number is 571-272-8136. The examiner can normally be reached on 8:00AM ~ 5:00PM Mon-Fri.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ricky Ngo can be reached on 571-272-3139. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Jonathan Liou

8/8/2005


RICKY NGO
PRIMARY EXAMINER
8/10/05